

Release notes for ENDF/B Development n-090_Th_228
evaluation



April 26, 2017

- psyche Warnings:

- Strength function in URR not in agreement with PSYCHE's expectations
 $FILE\ 2 / SECTION\ 151 / ISOTOPE\ MASS = 228. L = 0 / STRENGTH\ FUNCTION$
 $IS\ 7.77280E-05 / AVERAGE\ GAMMA\ WIDTH\ 5.30000E-02 / LIES\ OUTSIDE\ LIM-$
 $ITS\ 1.00000E-02\ TO\ 5.00000E-02\ EV.\ (0):\ URR\ str.\ ftn.$

```
FILE 2
SECTION 151
ISOTOPE MASS = 228. L = 0
STRENGTH FUNCTION IS 7.77280E-05
AVERAGE GAMMA WIDTH 5.30000E-02
... [1 more lines]
```

- fudge-4.0 Warnings:

- Missing a channel with a particular angular momenta combination
 $resonances / resolved / MultiLevel_BreitWigner$ (Error # 0): *missingResonanceChannel*

WARNING: Missing a channel with angular momenta combination $L = 0, J = 1.5$ and $S = 1.5$ for "capture"

- Potential scattering hasn't converted, you need more L's!
 $resonances / resolved$ (Error # 1): *potentialScatteringNotConverged*

WARNING: Potential scattering hasn't converged by $L=0$ at $E=13.0$ eV, $xs[0]/xs[0]=100.0\% > 0.1\%$

- Cross section does not match sum of linked reaction cross sections
 $crossSectionSum$ label 0: total (Error # 0): *CS Sum*.

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.40%

- The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
 $Section\ 1\ (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [nubar]): / Form\ 'eval':$ (Error # 0): *Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.00000e+00) is too small

- The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
 $Section\ 2\ (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [nubar]): / Form\ 'eval':$ (Error # 0): *Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.168219e-09) is too small

- The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
 $Section\ 3\ (total): / Form\ 'eval': / Component\ 0$ (Error # 0): *Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.00000e+00) is too small

- The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
 $Section\ 3\ (total): / Form\ 'eval': / Component\ 1$ (Error # 0): *Condition num.*

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 4 (n + Th228): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 4 (n + Th228): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission]): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission]): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 9 (n + (Th228_e1 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (3.518376e-10) is too small
```

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 11 (n + (Th228_e3 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.304088e-09) is too small
```

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 12 (n + (Th228_e4 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.309625e-09) is too small
```

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 13 (n + (Th228_e5 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (8.914742e-10) is too small
```

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + (Th228_e6 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.138452e-09) is too small
```

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + (Th228_e7 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.408763e-09) is too small
```

18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + (Th228_e8 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.586040e-09) is too small
```

19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + (Th228_e9 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (3.589427e-09) is too small
```

20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (n + (Th228_e11 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (3.087546e-09) is too small
```

21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (n + (Th228_e12 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (7.190820e-10) is too small
```

22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 21 (n + (Th228_e13 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.928511e-10) is too small
```

23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 22 (n + (Th228_e14 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (2.412750e-10) is too small
```

24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 23 ($n + (Th228_e15 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (4.056283e-09) is too small

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 24 ($n + (Th228_e16 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (4.240615e-09) is too small

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 25 ($n + (Th228_e17 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (8.979096e-09) is too small

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 26 ($n + (Th228_e18 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (6.153953e-09) is too small

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 27 ($n + (Th228_e19 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (1.599407e-09) is too small

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 29 ($n + (Th228_e21 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (2.837511e-10) is too small

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 30 ($n + (Th228_e22 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (4.073295e-09) is too small

31. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 31 ($n + (Th228_e23 \rightarrow Th228 + \gamma)$): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (3.327017e-09) is too small

32. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 32 (n + (Th228_e24 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (1.886275e-09) is too small
33. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 33 (n + (Th228_e25 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (3.123577e-09) is too small
34. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 34 (n + (Th228_e26 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (2.011035e-09) is too small
35. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 35 (n + (Th228_e27 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (1.317799e-09) is too small
36. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 36 (n + (Th228_e28 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (5.310116e-09) is too small
37. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 37 (n + (Th228_e29 -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (1.448517e-09) is too small
38. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 38 (n + (Th228_c -> Th228 + gamma)): / Form 'eval': (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
39. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 39 (Th229 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.
- WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

40. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 39 (Th229 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

41. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 40 (n + Th228 [angular distribution]): / Form 'eval': (Error # 1): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

42. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 41 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

43. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 42 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

44. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 43 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

45. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

Section 44 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

- **fudge-4.0 Errors:**

1. ENDF format insists that all outgoing fission neutrons, delayed or otherwise, have spectra. For delayed neutrons this is tough.

Reading ENDF file: ../n-090_Th_228.endf (Error # 0): No delayed n dist

WARNING: More than one delayed fission neutron decay time but no MF = 5 data

2. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_a / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (170000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
3. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (170000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
 WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
 WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
 WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
 ... plus 76 more instances of this message
4. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_b / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
5. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_c / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
6. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_d / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
7. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_e / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (625254.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
8. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_f / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
9. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_g / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
10. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_h / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
11. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_i / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1400000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
12. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_j / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
13. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_k / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
14. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_l / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
15. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_m / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
16. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_n / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1027050.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
17. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_o / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
18. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_p / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1400000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
19. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_q / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (800000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

20. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_r / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

21. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_s / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

22. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_t / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

23. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_u / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

24. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_v / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

25. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_w / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1020900.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

26. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_x / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1027050.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

27. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_y / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (800000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

28. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_z / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

29. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_aa / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

30. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ab / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (625254.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

31. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ac / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

32. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ad / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

33. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ae / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (983832.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

34. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_af / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (942732.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

35. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ag / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1165130.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

36. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ah / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (983832.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

37. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ai / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

38. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_aj / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
39. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ak / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1064620.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
40. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_al / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1064620.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
41. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_am / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
42. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_an / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
43. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ao / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
44. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ap / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
45. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_aq / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1165130.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
46. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ar / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (983832.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

47. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_as / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
48. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_at / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1200000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
49. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_au / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1200000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
50. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_av / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
51. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_aw / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
52. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ax / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (942732.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
53. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ay / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
54. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_az / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
55. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ba / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

56. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bb / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (983832.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
57. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bc / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
58. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bd / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
59. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_be / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1165130.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
60. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bf / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (983832.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
61. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bg / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1064620.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
62. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bh / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1200000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
63. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bi / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)
64. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bj / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

65. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bk / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1064620.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

66. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bl / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

67. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bm / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

68. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bn / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

69. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bo / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1095840.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

70. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bp / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

71. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bq / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

72. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_br / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

73. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bs / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1400000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

74. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bt / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1127920.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

75. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bu / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1200000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

76. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bv / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

77. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bw / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

78. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bx / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

79. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_by / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

80. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_bz / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1400000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

81. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_ca / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

82. Energy range of data set does not match cross section range
reaction label 30: n + (Th228_c -> Th228 + gamma) / Product: Th228_c / Decay product: gamma_cb / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (1300000.0 -> 20000000.0) vs (110975.0 -> 20000000.0)

83. Calculated and tabulated Q values disagree.
reaction label 31: n[multiplicity:'2'] + Th227 + gamma (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -6978273.119995117 eV vs -7.1053e6 eV!
84. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_a / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
85. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
86. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_b / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
87. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
88. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_c / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
89. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
90. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_d / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
91. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

92. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_e / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

93. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

94. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_f / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

95. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

96. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_g / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

97. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

98. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_h / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

99. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

100. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_i / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

101. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
102. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_j / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
103. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
104. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_k / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
105. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
106. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_l / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
107. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
108. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_m / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
109. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

110. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_n / Multiplicity: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
111. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_n / Distribution: / uncorrelated - angular - isotropic: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
112. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_o / Multiplicity: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
113. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_o / Distribution: / uncorrelated - angular - isotropic: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
114. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_p / Multiplicity: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
115. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_p / Distribution: / uncorrelated - angular - isotropic: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
116. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_q / Multiplicity: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
117. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_q / Distribution: / uncorrelated - angular - isotropic: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
118. Energy range of data set does not match cross section range
 $reaction\ label\ 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_r / Multiplicity: (Error \# 0): Domain\ mismatch\ (a)$
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

119. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_r / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
120. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_s / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
121. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_s / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
122. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_t / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
123. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_t / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
124. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_u / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
125. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_u / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
126. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_v / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
127. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_v / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

128. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_w / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
129. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_w / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
130. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_x / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
131. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_x / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
132. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_y / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
133. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_y / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
134. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_z / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
135. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_z / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
136. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_aa / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

137. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_aa / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
138. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ab / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
139. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ab / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
140. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ac / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
141. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ac / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
142. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ad / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
143. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ad / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
144. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ae / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)
145. Energy range of data set does not match cross section range
reaction label 31: n[multiplicity:'2'] + Th227 + gamma / Product: gamma_ae / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (7500000.0 -> 20000000.0) vs (7136730.0 -> 20000000.0)

146. Calculated and tabulated Q values disagree.
reaction label 32: n[multiplicity:'3'] + Th226 + gamma (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -12440474.7923584 eV vs -1.25675e7 eV!
147. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_a / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
148. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
149. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_b / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
150. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
151. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_c / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
152. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
153. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_d / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
154. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

155. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_e / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
156. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
157. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_f / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
158. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
159. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_g / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
160. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
161. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_h / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
162. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
163. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_i / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

164. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
165. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_j / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
166. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
167. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_k / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
168. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
169. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_l / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
170. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
171. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_m / Multiplicity: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)
172. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)
- WARNING: Domain doesn't match the cross section domain: (13500000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

173. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_n / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

174. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

175. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_o / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

176. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

177. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_p / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

178. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_p / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

179. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_q / Multiplicity: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

180. Energy range of data set does not match cross section range
reaction label 32: n[multiplicity:'3'] + Th226 + gamma / Product: gamma_q / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (14000000.0 -> 20000000.0) vs (12623100.0 -> 20000000.0)

181. Calculated and tabulated Q values disagree.
reaction label 34: Th229 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 5384023.558380127 eV vs 5256990. eV!

182. Multiplicity does not match sum of linked product multiplicities!
 $multiplicitySum$ label 32: $n + (Th228_c \rightarrow Th228 + \gamma)$ total gamma multiplicity
 (Error # 0): summedMultiplicityMismatch
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 38.06%
183. Multiplicity does not match sum of linked product multiplicities!
 $multiplicitySum$ label 33: $n[multiplicity:'2'] + Th227 + \gamma$ total gamma multiplicity
 (Error # 0): summedMultiplicityMismatch
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 99.99%
184. Multiplicity does not match sum of linked product multiplicities!
 $multiplicitySum$ label 34: $n[multiplicity:'3'] + Th226 + \gamma$ total gamma multiplicity
 (Error # 0): summedMultiplicityMismatch
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 57.05%
185. Calculated and tabulated Q values disagree.
 $fissionComponent$ label 0: $/reactionSuite/fissionComponents/fissionComponent[@label='0']$
 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: 213347107298.2504 eV vs 1.811843e8 eV!
186. Calculated and tabulated Q values disagree.
 $fissionComponent$ label 1: $/reactionSuite/fissionComponents/fissionComponent[@label='1']$
 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: 213347107298.2504 eV vs 1.811843e8 eV!
187. Calculated and tabulated Q values disagree.
 $fissionComponent$ label 2: $/reactionSuite/fissionComponents/fissionComponent[@label='2']$
 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: 213347107298.2504 eV vs 1.811843e8 eV!
188. Calculated and tabulated Q values disagree.
 $fissionComponent$ label 3: $/reactionSuite/fissionComponents/fissionComponent[@label='3']$
 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: 213347107298.2504 eV vs 1.811843e8 eV!
189. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.
 Section 40 ($n + Th228$ [angular distribution]): / Form 'eval': $\int LegendreLValue L=1$ vs 1 (Error # 0): Bad evs
- WARNING: 10 negative eigenvalues! Worst case = -2.714813e-05

- njoy2012 Warnings:

- In some evaluations, the partial fission reactions MT=19, 20, 21, and 38 are given in File 3, but no corresponding distributions are given. In these cases, it is assumed that MT=18 should be used for the fission neutron distributions.
 $heatr...prompt kerma$ (0): HEATR/hinit (3)

```
---message from hinit---mt19 has no spectrum  
mt18 spectrum will be used.
```

2. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (1): HEATR/hinit (4)

```
---message from hinit---mf6, mt 16 does not give recoil za= 90227  
one-particle recoil approx. used.
```

3. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (2): HEATR/hinit (4)

```
---message from hinit---mf6, mt 17 does not give recoil za= 90226  
one-particle recoil approx. used.
```

4. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (3): HEATR/hinit (4)

```
---message from hinit---mf6, mt 51 does not give recoil za= 90228  
one-particle recoil approx. used.
```

5. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (4): HEATR/hinit (4)

```
---message from hinit---mf6, mt 52 does not give recoil za= 90228  
one-particle recoil approx. used.
```

6. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (5): HEATR/hinit (4)

```
---message from hinit---mf6, mt 53 does not give recoil za= 90228  
one-particle recoil approx. used.
```

7. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (6): HEATR/hinit (4)

```
---message from hinit---mf6, mt 54 does not give recoil za= 90228  
one-particle recoil approx. used.
```

8. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (7): HEATR/hinit (4)

```
---message from hinit---mf6, mt 55 does not give recoil za= 90228  
one-particle recoil approx. used.
```

9. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (8): HEATR/hinit (4)

```
---message from hinit---mf6, mt 56 does not give recoil za= 90228  
one-particle recoil approx. used.
```

10. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (9): HEATR/hinit (4)

```
---message from hinit---mf6, mt 57 does not give recoil za= 90228  
one-particle recoil approx. used.
```

11. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (10): HEATR/hinit (4)

```
---message from hinit---mf6, mt 58 does not give recoil za= 90228
one-particle recoil approx. used.
```

12. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (11): HEATR/hinit (4)

```
---message from hinit---mf6, mt 59 does not give recoil za= 90228
one-particle recoil approx. used.
```

13. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (12): HEATR/hinit (4)

```
---message from hinit---mf6, mt 60 does not give recoil za= 90228
one-particle recoil approx. used.
```

14. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (13): HEATR/hinit (4)

```
---message from hinit---mf6, mt 61 does not give recoil za= 90228
one-particle recoil approx. used.
```

15. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (14): HEATR/hinit (4)

```
---message from hinit---mf6, mt 62 does not give recoil za= 90228
one-particle recoil approx. used.
```

16. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (15): HEATR/hinit (4)

```
---message from hinit---mf6, mt 63 does not give recoil za= 90228
one-particle recoil approx. used.
```

17. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (16): HEATR/hinit (4)

```
---message from hinit---mf6, mt 64 does not give recoil za= 90228
one-particle recoil approx. used.
```

18. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (17): HEATR/hinit (4)

```
---message from hinit---mf6, mt 65 does not give recoil za= 90228
one-particle recoil approx. used.
```

19. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (18): HEATR/hinit (4)

```
---message from hinit---mf6, mt 66 does not give recoil za= 90228
one-particle recoil approx. used.
```

20. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (19): HEATR/hinit (4)

---message from hinit---mf6, mt 67 does not give recoil za= 90228
one-particle recoil approx. used.

21. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (20): HEATR/hinit (4)

---message from hinit---mf6, mt 68 does not give recoil za= 90228
one-particle recoil approx. used.

22. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (21): HEATR/hinit (4)

---message from hinit---mf6, mt 69 does not give recoil za= 90228
one-particle recoil approx. used.

23. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (22): HEATR/hinit (4)

---message from hinit---mf6, mt 70 does not give recoil za= 90228
one-particle recoil approx. used.

24. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (23): HEATR/hinit (4)

---message from hinit---mf6, mt 71 does not give recoil za= 90228
one-particle recoil approx. used.

25. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (24): HEATR/hinit (4)

---message from hinit---mf6, mt 72 does not give recoil za= 90228
one-particle recoil approx. used.

26. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (25): HEATR/hinit (4)

---message from hinit---mf6, mt 73 does not give recoil za= 90228
one-particle recoil approx. used.

27. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (26): HEATR/hinit (4)

---message from hinit---mf6, mt 74 does not give recoil za= 90228
one-particle recoil approx. used.

28. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (27): HEATR/hinit (4)

---message from hinit---mf6, mt 75 does not give recoil za= 90228
one-particle recoil approx. used.

29. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (28): HEATR/hinit (4)

---message from hinit---mf6, mt 76 does not give recoil za= 90228
one-particle recoil approx. used.

30. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (29): HEATR/hinit (4)

```
---message from hinit---mf6, mt 77 does not give recoil za= 90228
one-particle recoil approx. used.
```

31. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (30): HEATR/hinit (4)

```
---message from hinit---mf6, mt 78 does not give recoil za= 90228
one-particle recoil approx. used.
```

32. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (31): HEATR/hinit (4)

```
---message from hinit---mf6, mt 79 does not give recoil za= 90228
one-particle recoil approx. used.
```

33. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (32): HEATR/hinit (4)

```
---message from hinit---mf6, mt 91 does not give recoil za= 90228
one-particle recoil approx. used.
```

34. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (33): HEATR/hinit (4)

```
---message from hinit---mf6, mt102 does not give recoil za= 90229
photon momentum recoil used.
```

35. There is a problem with the fission energy release.
heatr...prompt kerma (38): HEATR/nheat (3)

```
---message from nheat---changed q from 1.811843E+08 to 1.720646E+08
for mt 18
```

36. Coefficient mismatch of some sort
covr...process covariance data (1): COVR/matshd (2)

```
---message from matshd---processing of mat/mt 9028/ 4 vs. mat1/mt1 9028/ 53
largest coefficient= -2.54357E+02 at index 437 618
```

37. The number of coefficients was too large in a covariance
covr...process covariance data (2): Cov:Too many coeff.

```
---message from matshd--- 324 coefficients > 1
reset and continue.
```

38. The number of coefficients was too large in a covariance
covr...process covariance data (3): Cov:Too many coeff.

```
---message from matshd---1960 coefficients > 2
reset and continue
```

39. Coefficient mismatch of some sort
covr...process covariance data (4): COVR/matshd (2)

```
---message from matshd---processing of mat/mt 9028/ 4 vs. mat1/mt1 9028/ 55
      largest coefficient= -1.06686E+02 at index 442 618
```

40. The number of coefficients was too large in a covariance
covr...process covariance data (5): Cov:Too many coeff.

```
---message from matshd--- 326 coefficients > 1
      reset and continue.
```

41. The number of coefficients was too large in a covariance
covr...process covariance data (6): Cov:Too many coeff.

```
---message from matshd---1273 coefficients > 2
      reset and continue
```

42. Coefficient mismatch of some sort
covr...process covariance data (7): COVR/matshd (2)

```
---message from matshd---processing of mat/mt 9028/ 53 vs. mat1/mt1 9028/ 53
      largest coefficient= 1.13425E+03 at index 525 618
```

43. The number of coefficients was too large in a covariance
covr...process covariance data (8): Cov:Too many coeff.

```
---message from matshd---2078 coefficients > 1
      reset and continue.
```

44. The number of coefficients was too large in a covariance
covr...process covariance data (9): Cov:Too many coeff.

```
---message from matshd---**** coefficients > 2
      reset and continue
```

45. Coefficient mismatch of some sort
covr...process covariance data (10): COVR/matshd (2)

```
---message from matshd---processing of mat/mt 9028/ 55 vs. mat1/mt1 9028/ 55
      largest coefficient= 5.87712E+02 at index 533 618
```

46. The number of coefficients was too large in a covariance
covr...process covariance data (11): Cov:Too many coeff.

```
---message from matshd---2030 coefficients > 1
      reset and continue.
```

47. The number of coefficients was too large in a covariance
covr...process covariance data (12): Cov:Too many coeff.

```
---message from matshd---**** coefficients > 2
      reset and continue
```

48. Coefficient mismatch of some sort
covr...process covariance data (13): COVR/matshd (2)

```
---message from matshd---processing of mat/mt 9028/ 56 vs. mat1/mt1 9028/ 56
      largest coefficient= 1.33231E+01 at index 590 591
```

49. The number of coefficients was too large in a covariance
covr...process covariance data (14): Cov:Too many coeff.

```
---message from matshd--- 836 coefficients > 1
                           reset and continue.
```

50. The number of coefficients was too large in a covariance
covr...process covariance data (15): Cov:Too many coeff.

```
---message from matshd---3548 coefficients > 2
                           reset and continue
```

- **xsectplotter Errors:**

1. ENDF format insists that all outgoing fission neutrons, delayed or otherwise, have spectra. For delayed neutrons this is tough.
(Error # 2): No delayed n dist

```
WARNING: More than one delayed fission neutron decay time but no MF = 5 data
```